

REMARKS/ARGUMENTS

Claims 1, 6, and 12-29 are pending. Claims 1 and 6 have been amended. New claims 12-29 have been added. No new matter has been introduced. Applicants believe the claims comply with 35 U.S.C. § 112.

Claims 1 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Thundar et al. (US 6,050,722) in view of Chatigny et al. The Examiner recognizes that Thundar et al. does not disclose a piezoelectric film for measuring the blackbody radiation of a medium, and cites Chatigny et al. for allegedly providing the missing teaching.

Applicants respectfully submit that independent claims 1 and 6 are patentable over Thundar et al. and Chatigny et al. because, for instance, they do not teach or suggest a controller responsive to measurement information including a temperature of the medium from the temperature sensing element and inputting power to a medium based on the temperature of the medium.

Thundar et al. is directed to non-contact passive temperature measurement using micro-mechanical sensors. The processor calculates the collected thermal energy in at least two different spectral regions using a first algorithm in program form and further calculates the ratio of the thermal energy in the at least two different spectral regions to obtain the target temperature independent of the target size, distance to the target, and emissivity using a second algorithm in program form. See Abstract; column 3, lines 48-56; and column 8, lines 19-24. Nothing in Thundar et al. discloses or suggests a controller that inputs power to a medium based on the temperature of medium in response to measurement information from the temperature sensing element. The processor in Thundar et al. merely determines the temperature based on the collected thermal energy.

New claims 12-20 depend from independent claim 1, and new claims 21-29 depend from independent claim 6, and are submitted to be patentable as being directed to additional features of the invention as well as by being dependent from allowable claims 1 and 6, respectively. For example, claims 12 and 21 each recite that the temperature sensing element is configured to measure the blackbody radiation of the medium at a location where thermally assisted/thermal information processing occurs. See specification at page 8, lines 14-16. Claims 13 and 22 each recite that the piezoelectric film is embedded in a recording

head of a disk storage device and is configured to measure the blackbody of a disk as the medium. See specification at page 8, lines 19-20. Claims 14 and 23 each recite that the controller is configured to control an adjustable heat flux mechanism to input power to the medium based on the measured temperature of the medium. See specification at page 2, lines 6-9. Claims 15 and 24 each recite that the controller is configured to coordinate a mutual positioning between an energy source to input power to the medium and the medium. See specification at page 9, lines 4-5. Claims 16 and 25 each recite that the controller is configured to coordinate the mutual positioning between the energy source to input power to the medium and the medium so that a coupling between the energy source and the controller subsumes at least a portion of a thermal near-field. See specification at page 9, lines 5-7. Claims 17 and 26 each recite that the controller comprises an actuator to coordinate the mutual positioning. See specification at page 9, lines 7-8. Claims 18 and 27 each recite that the actuator is selected from the group consisting of a piezoelectric actuator, an electromagnetic actuator, a magnetic-strictive actuator, a thermal-mechanical actuator, and an air-bearing mechanism. See specification at page 9, lines 8-10. Claims 19 and 28 each recite that the controller comprises a servo loop which feeds on energy output by an energy source to adjust the temperature of the medium. See specification at page 9, lines 10-12. Claims 20 and 29 each recite that the controller is configured to enable thermally assisted/thermal information processing, which includes at least one of writing and erasing, by using an information signal. See specification at page 9, lines 15-17. These features are absent from the cited references.

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PATENT

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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